

Serial No. 09/202,549

Inventor: Tsichlis

Title: Nucleic Acid Molecule for
Enhancing Gene Expression



A A A A T C A C A G C A T A T G C C
32/32 40 40 39 35 30 30 35 39 40 35/40 73 100 100 100 100 53 69 75 57 39 35 32 38 38 35 33 38 35 32 38 38 35 33

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Figure 1

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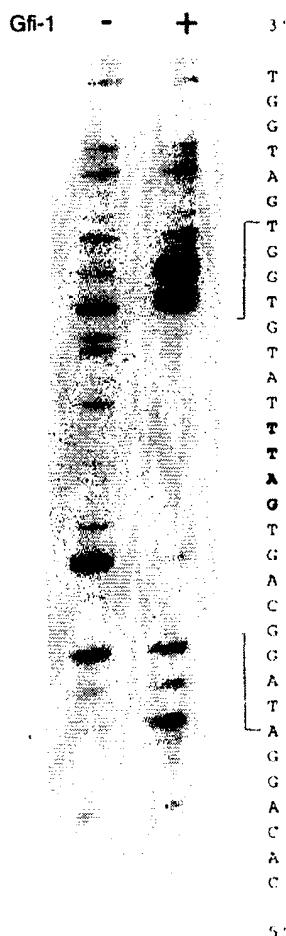
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A



B

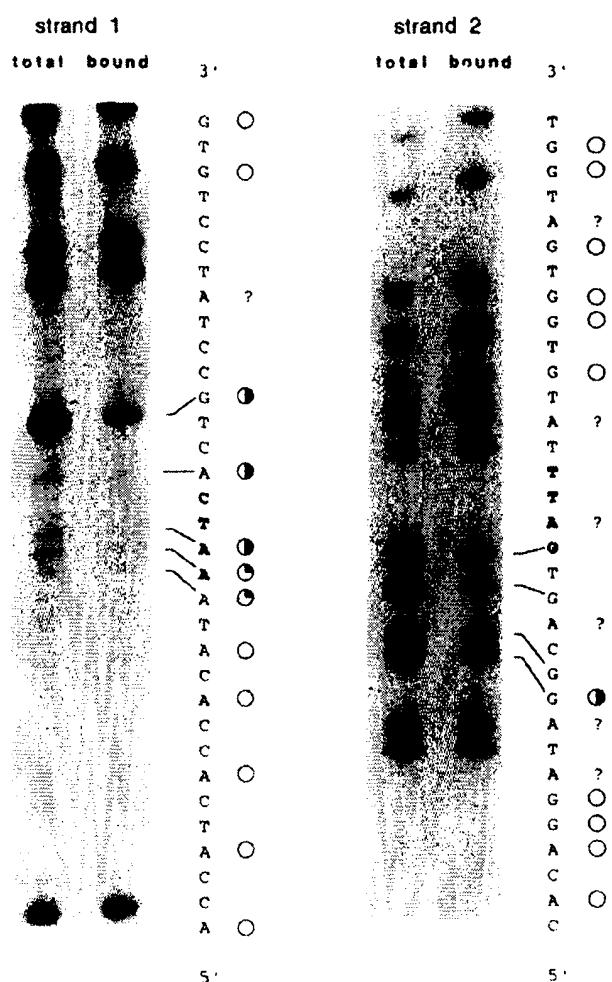


Figure 2

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C 1 2 3 4 5 6 7 8 9 10 11 12
O O O O O O O O O O O O
: : . ACCATCACCACATAAAATCACTGCCCTATCCTGTG . . .
: : . TGGTAGTGGTGTATTAGTGACGGATAGGACAC . . .
O O ? O O O ? ? ● ? ● ? ? O O O O

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Figure 2

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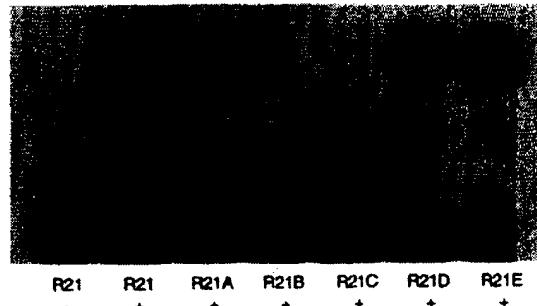
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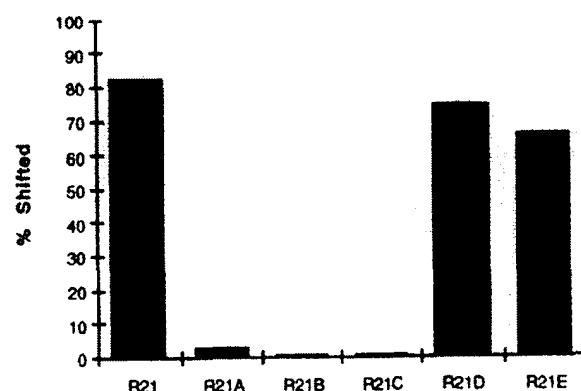
D1

1 2 3 4 5 6 7 8 9 10 11 12
R21 CACCA CATA A A A T C A C T G C C T A T C C
R21A CACCA CATA A G A T C A C T G C C T A T C C
R21B CACCA CATA A A C T C A C T G C C T A T C C
R21C CACCA CATA A A A T A C T G C C T A T C C
R21D CACCA CATA A A A T C A A T G C C T A T C C
R21E CACCA CATA A A A T C A C T T C C T A T C C

D2



D3



E

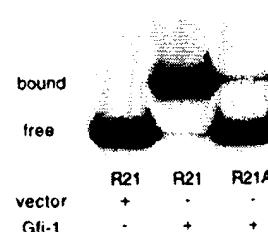


Figure 2



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A

HCMV MIE Promoter

GCCCCGCTGGCTGACCGCCCAACGACCCCCGCCATTGACGTCAATAATG

ACGTATGTTCCCATAAGTAACGCCAATAGGGACTTCCATTGACGTCAATG

GGTGGAGTATTACGGTAAACTGCCCACTTGGCAGTACATCAAGTGTATC

ATATGCCAAGTACGCCCTATTGACGTCAATGACGGTAAATGGCCGCC

TGGCATTATGCCAGTACATGACCTTATGGGACTTCCCTACTTGGCAGTA

CATCTACGTATTAGTCATCGCTATTACCATGGTATGCCGTTTGGCAGT

Gfi-1 site #1

ACATCAATGGCGTGGATAGCGGTTGACTCACGGGATTTCCAAGTCTC

Gfi-1 site #2

CACCCATTGACGTCAATGGAGTTGTTGGCACAAAATCAACGGGA

CTTTCAAAATGTCGTAACAACTCCGCCATTGACGCAAATGGCGGTA

GGCGTGTACGGTGGAGGTCTATATAAGCAGAGCTCGTTAGTGAACCGT

→ +1

B

Gfi-1 consensus

TAAATCACAGCA
T

Gfi-1 site #1 (-157 to -168)

GAAATCCCCGTG

Gfi-1 site #2 (-111 to -100)

AAAATCAACGGG

Figure 3

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C

Point Mutations

	<u>Gfi-1 site #1</u>	<u>Gfi-1 site #2</u>
Wildtype CMV	CACGGGG <u>G</u> ATTC	AAA <u>A</u> TCAACGGG
Mutant A	CACGGGG <u>A</u> CTTC	AAA <u>C</u> TCAACGGG
Mutant B	CACGGG <u>A</u> CTTTC	AAA <u>A</u> CTAACGGG

D

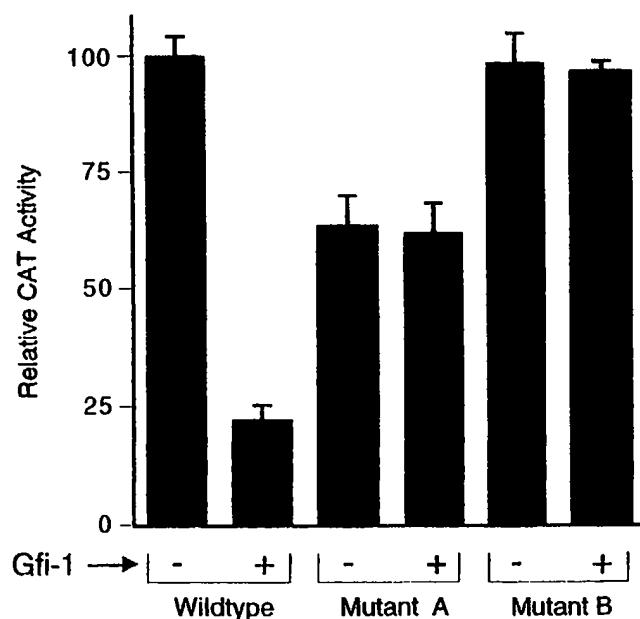


Figure 3

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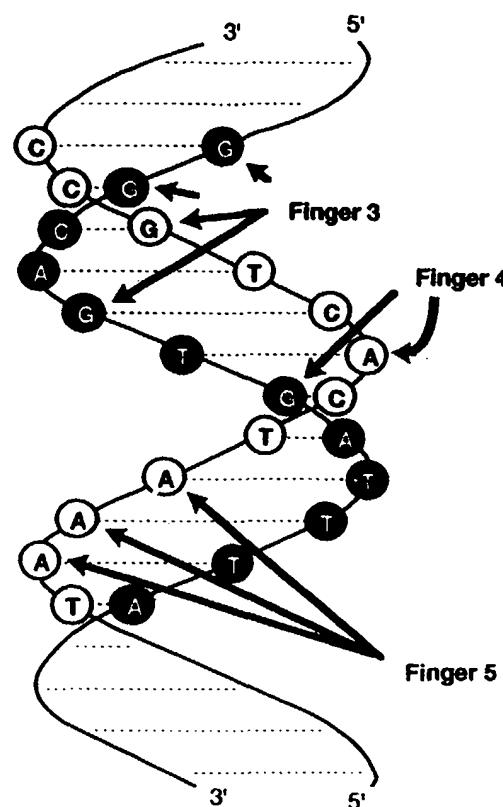
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A

aa	Binding Site		
	Predicted	R21	
	3'	3' 5'	
T	-	-	
G	X	-	
V	T/C	-	
H	G	-	
Finger 1			
S	-	C ... G	
Q	A	C ... G	
R	G/t	G ... C	
Finger 2	T	T ... A	
T	-	C ... G	
Q	A	A ... T	
D	C	C ... G	
K	G/t	T ... A	
Finger 3	A	A ... T	
C	-	A ... T	
Finger 4	T	T ... A	
Q	A	A ... T	
N	A	A ... T	
T	-	A ... T	
Finger 5	R	T ... A	
D	C	-	
R	G/t	-	
Finger 6			
	5'	5' 3'	

B



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Figure 4